11. Method according to claim 1, wherein loading and modifying the objects in the mobile station is initiated by means of selected events.

12. Method according to claim 1, wherein loading and modifying the objects in the mobile station is initiated by the subscriber.

REMARKS

Claims 13 and 14 have been cancelled and Claims 1-12 have been rewritten in proper U.S. form. Attached hereto is a marked-up version of the changes made to the claims by the current amendments. The attached pages are captioned "Versions With Markings To Show Changes Made."

The Examiner requires that an Abstract of the Disclosure be submitted in accordance with 37 C.F.R. 1.72(b). Accordingly, an Abstract of the Disclosure is attached on a separate sheet herewith.

The Examiner also requires the specification be arranged according to 37 CFR 1.77(b) and double spaced. Accordingly, a rewritten substitute specification is attached herewith. No new matter has been added. In addition, a substitute specification with markings to show changes made is also attached.

The Applicants have also submitted herewith a Request for Approval of Drawing changes.

Attached herewith is a translation of the cited section of Eul, DE 196 10 840.

In regard to the rejection of claims 1-14 under 35 U.S.C. § 102, amended claim 1 has been rewritten in proper U.S. form and has been amended with the recitations of claim 13 and 14. Sections of Lehtonen, WO 97/32439, were cited by the Examiner in regards to the recitations of claim 13 and 14, which are now incorporated into amended claim 1. Lehtonen discloses information or settings which are required to use an application, such as a phone number or Internet Protocol address, and which may be received from a network operator (page 12, lines 11-32); menu commands producing functions in a terminal, for example, querying a timetable of certain flights (page 20, lines 30-34); and a mobile communications process of receiving information related to an application, *i.e.*, receiving, demodulating, deciphering, de-interleaving, and decoding (page 31, lines 31-38).

Amended claim 1 calls for objects that verify the technical capabilities of the mobile station and objects that automatically adapt to the technical capabilities of the mobile station.

Additionally, amended claim 1 calls for the step of subsequently selecting and loading into the mobile station an object suitable to the technical capabilities of the mobile station, and the technical capabilities of the mobile stations being stored in a special database. Lehtonen does not disclose an object or mobile station performing the steps called for in Applicant's amended claim 1.

The sections of Lehtonen cited by the Examiner only disclose receiving information necessary to use an application from a network operator and general aspects of a mobile communications process. No section of Lehtonen discloses the aspects of objects and technical capabilities of a mobile station that are called for in Applicant's amended claim 1.

Applicant therefore submits that Applicant's amended claim 1 and amended claims 2-12, which depend from amended claim 1, are not anticipated by Lehtonen.

In regard to the rejection of claims 13-14, under 35 U.S.C. § 103(a) over Lehtonen in view of Eul, DE 196 10 840, the recitations of claims 13-14 have been incorporated into Applicant's amended claim 1. Lehtonen discloses the features cited above.

Eul at column 5, lines 11-42, a translation of which is attached herewith, discloses a mobile station having a keyboard and a display for electronic games, exchange of messages between the mobile station and a services control unit, entering a call number, analyzing the call number, and initiating a connection to a services switching device.

Neither Lehtonen nor the cited sections of Eul disclose or suggest objects that verify the technical capabilities of the mobile station and objects that automatically adapt to the technical capabilities of the mobile station, as called for by Applicant's amended claim 1. Additionally, the cited sections also do not disclose or suggest the step of subsequently selecting and loading into the mobile station an object suitable to the technical capabilities of the mobile station, and the technical capabilities of the mobile stations being stored in a special database, as called for by Applicant's amended claim 1.

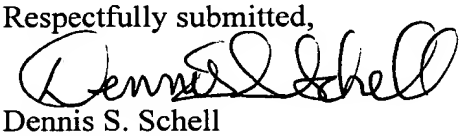
Eul at column 5, lines 11-42 merely discloses connecting an electronic game mobile station to a services unit by dialing a phone number and establishing a connection and does not suggest or make obvious, in combination with Lehtonen, the aspects of objects and technical capabilities of a mobile station that are called for in Applicant's claim 1.

In view of the forgoing, Applicant respectfully submits that claims 1-12 are not anticipated by Lehtonen or obvious over Lehtonen in view of Eul.

In view of the foregoing, Applicant further submits that the application, as amended, is in condition for allowance and such favorable action after reexamination and reconsideration is respectfully requested. In the event any additional extension of time or payment of fee is required, Applicant hereby conditionally petitions therefor and authorizes any charges to be made to Deposit Account 02-0385 BAKER & DANIELS.

Should the Examiner have any questions or suggestions that would expedite the prosecution of this application, the Examiner is invited to telephone John F. Hoffman at (260) 460-1692.

Respectfully submitted,



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to Show Changes Made
Substitute Specification
Abstract of the Disclosure
Red-lined Specification

CERTIFICATION OF MAILING

I HEREBY CERTIFY that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on: January 27, 2003.

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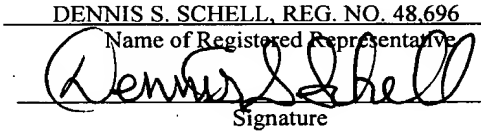
Name of Registered Representative



Signature

January 27, 2003
Date

VERSIONS WITH MARKINGS TO SHOW CHANGES MADE

1. (Amended) [Method] A method for terminal assisted menu presentation of value added services in mobile communication systems where the value added services are accessible via value added services nodes where objects are loaded in a mobile station comprising a mobile terminal and a subscriber identity module, [characterized in that the objects are controlled, modified or executed via the aerial interface of the mobile communication system and consist of programs, functions and/or data that assist the communication between subscriber and value added services node and the use of the value added services offered.] comprising the steps of:

communicating between a subscriber and a value added services node relative to value added services offered with the objects, the objects including at least one of executable programs, functions, and data;

controlling, modifying, or executing the objects via the wireless interface of the mobile communication system;

verifying with the objects the technical capabilities of the mobile station and the objects automatically adapting to the technical capabilities of the mobile station; and

subsequently selecting and loading into the mobile station an object suitable to the technical capabilities of the mobile station, wherein the technical capabilities of the mobile station are stored in a special database.

2. (Amended) Method according to claim 1, [characterized in that] wherein the objects are loaded in the mobile station via the [aerial] wireless interface.

3. (Amended) Method according to claim 1, [characterized in that the objects are loaded and/or modified in special dealer, service provider, etc. loading stations.] further comprising the step of loading and modifying the objects in loading stations provided by a special dealer or special provider.

4. (Twice Amended) Method according to claim 1, [characterized in that with the aid of the objects a menu for a value added services node is generated and displayed fully or in part on the display of the mobile station.] further comprising the step of generating and displaying, with the aid of objects, fully or in part on the display of the mobile station, a menu for value added services node.

5. (Amended) Method according to claim 4, [characterized in that the menu in the display of the mobile station is changed, adjusted and/or updated by means of loading a

new object in dependence of the actions previously executed in the value added service node.] further comprising the step of changing, adjusting, or updating the menu and the display of the mobile station by means of loading a new object in dependence of the actions previously executed in the value added services node.

6. (Twice Amended) Method according to claim 1, [characterized in that] wherein the objects are stored in an object center of the mobile communication system from where they are called up and loaded in the mobile terminal.

7. (Twice Amended) Method according to claim 1, [characterized in that] wherein the objects are loaded into a memory of the mobile terminal [(mobile equipment ME)] in the mobile station.

8. (Twice Amended) Method according to claim 1, [characterized in that] wherein the objects are loaded into a memory of the subscriber identity module.

9. (Twice Amended) Method according to claim 1, [characterized in that] wherein transfer, activation, modification and updating the objects take place via short messages or GPRS services of the mobile communication system.

10. (Twice Amended) Method according to claim 1, [characterized in that] wherein keys or key combinations in the mobile station are allocated via the objects to individual functions of the value added services.

11. (Twice Amended) Method according to claim 1, [characterized in that] wherein loading [and/or] and modifying the objects in the mobile station is initiated by means of selected events.

12. Method according to claim 1, [characterized in that] wherein loading [and/or] and modifying the objects in the mobile station is initiated by the subscriber.

TRANSLATION OF EUL, DE 196 10 840 A1
Column 5; Lines 11-42

A standard mobile communication end unit MS provides an output device, for example in the form of an LCD display and an input device EM, for example in the form of a keyboard. Said devices are already sufficient for making an electronic game useable for a participant on the communication end unit MS. Said devices AM, EM also serve as a user interface for the electronic game. For higher comfort, however, additional means for playing the games can be realized in the mobile communication end unit. Such means can be either separate memory regions in the memory and control unit SSM or additional output devices AM or input devices EM. Such additional devices EM, AM may be connected to the communication end unit MS via connection jacks.

Figs. 4 and 5 illustrate the exchange of messages between the mobile station MS and a services control unit SCP which is operated as a control device SE in accordance with the method of the invention. For example, the participant enters a call number defining the services switching device SCP in the mobile communication end unit MS and a request for connection is issued via the base station BS to the switching device MSC in whose service area the communication end unit MS is located. The switching device MSC analyzes the selected call number and initiates the connection to the services switching device SCP.

#13
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VERSION OF SPECIFICATION WITH MARKINGS TO SHOW CHANGES MADE

[Method for terminal assisted menu presentation of value added services in mobile communication systems.] METHOD FOR TERMINAL ASSISTED MENU PRESENTATION OF ADDED VALUE SERVICES IN MOBILE COMMUNICATION SYSTEMS

[Specifications] BACKGROUND OF THE INVENTION

1. Field of the Invention.

The invention relates to a method for terminal assisted menu presentation of value added services in mobile communication systems [according to the preamble of patent claim 1].

2. Description of Related Art.

Previously, after selecting a value added services node (VAS node), such as a mobile box system, a subscriber of a mobile communication system had to use verbally announced information in the menu to be able to make the appropriate entries and inquiries. This is relatively time-consuming, cumbersome and susceptible to errors because, most of the time, the subscriber has to memorize multiple references (number - function). If he forgets a reference he has to replay the verbal announcements. As a result the process may take a relatively long time.

EP-A-0 659 004 describes a mobile telephone where a certain preset service can be called up by means of using a key (soft key). The allocation of the respective service to said key is predetermined at the time the mobile telephone is manufactured and is stored in the unit itself.

DE-A-196 10 840 discloses a method for loading electronic games in a mobile communication terminal of a mobile communication network.

A subscriber is able to communicate by means of his communication terminal with a control system in the mobile telephone network via a dialog and select at least one game from a number of available games where, after the selection has been made, the data pertaining to the game and/or the game program is transferred by the control system to the communication terminal where it is stored. The stored game can now be executed by the subscriber in his terminal. A transfer of data to the terminal for terminal assisted menu presentation of value added services was not disclosed in this publication.

EP-A-0 772 367 relates to a mobile telephone system having a central service station which is in radio contact with a mobile station and exchanges data with said

mobile station. For controlling the data communication the mobile station includes a microprocessor which is controlled by means of a control program and detects and analyzes the short messages sent by the service station. Based on the information contained in the short message the microprocessor modifies the content of its control program. This method allows technical functions of the mobile station to be released or blocked. Consequently, this method is related purely to influencing the control programs that are already available in the mobile station via the service station, and not to transferring, modifying and executing programs for controlling value added services in the terminal.

The object of the invention is to propose a method for terminal assisted menu presentation of value added services in mobile communication systems[, which...].

[The problem is solved by means of the characterizing features in patent claim 1.]

BRIEF SUMMARY OF THE INVENTION

[It] The present invention describes the use of objects (programs, data, etc.) in mobile stations to assist in the use of a value added services node. In accordance with the invention the objects are loaded in the ME (mobile equipment) or the SIM (subscriber identity module) of a mobile terminal and are controlled, modified or executed via the [aerial] wireless interface. The objects assist the operation between mobile station user and the value added services node in that the menu for utilizing the respective value added service is displayed fully or in part on the display of the MS (mobile station) part depending on the actual position in the menu.

The mobile station user is able to initiate functions in the value added services nodes by means of actuating the keys displayed in the menu, such as listening to new messages in the mobile box. When a key is actuated the menu in the display of the mobile terminal is adjusted by the value added services node in accordance with the action that took place in the value added services node. This may also occur as a result of loading a new object or modifying a previously loaded object.

The objects allow a preferably visual menu presentation in the mobile station for the selected value added service making it considerably easier for the subscriber to use it.

The objects are loaded in the mobile station either via the [aerial] wireless interface or in special loading stations, for example at the dealer's location.

The loading process is initiated via the [aerial] wireless interface by the user or by events, such as the initial call from/to a value added services node.

The objects contain data and or functions/programs, which are stored and executed on the SIM card and/or in the mobile station.

The objects are capable of adapting to the capabilities of the mobile station, such as the size of the display, black and white or color. Such adaptation takes place either via polymorphism or by storing the capabilities of the mobile station in the communication network whereby respectively adapted objects are loaded, when required.

The objects are activated in the mobile station either explicitly by the user or implicitly by events such as logging into the mobile telephone network, the receipt of messages (short message, call), etc.

Modifications of the objects are initiated either explicitly by the user or implicitly by the object itself, for example for updating a menu structure.

BRIEF DESCRIPTION OF THE DRAWING

The invention will be explained below in more detail by means of an example shown in the drawing, in which Fig. 1 is a schematic block diagram of an exemplary system according to the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[The drawing] Fig. 1 shows a representation of the systems involved. The objects (applications) are held in an object center 9 in a database.

Loading the objects in the mobile station 1 (mobile equipment 2 and/or (U) SIM 3) or modifying the objects takes place via the [aerial] wireless interface 5 of the mobile telephone network 4 or the interface of a SIM card reader from a service provider 10.

The preferred transmitting mechanisms for the objects via the mobile telephone network 4 are short messages (SM: short messages) or GPRS services.

Short messages (SM) or GPRS services are also used for controlling the objects. Alternatively, DTMF sounds (dual tone multi frequency) may be used by the mobile station 1 if a voice connection exists, for example with mobile box systems. The DTMF sounds are analyzed by the application in the value added services node 7 and are able to initiate respective control messages to the objects via short messages (SM) or GPRS services.

If the objects are to be adapted to the individual capabilities of the mobile station 1 the respective profiles of the capabilities are available either in the home

location register 8 (HLR: home location register) of the subscriber or in the object center 9. In the former case the object center 9 has to request the respective profile from the home location register 8.

The SIM application tool kit according to GSM recommendation 11.14 offers the basic functionality of loading programs and data in the mobile station 1 via the [aerial] wireless interface 5 and of executing these in the SIM 3. The method described in the invention can be applied with the aid of this basic functionality. However, said method may also be applied on the basis of other mechanisms.

The following describes how objects are loaded and activated on the basis of the SIM application tool kit for assisting in the use of a value added service and should be understood as a potential concrete implementation of the invention.

An object contains an abbreviated form of the menu of a value added service having a fixed allocation between the keys of the mobile station and actions of the value added service.

Upon initial contact (call) of a mobile station with the value added services node 7 objects are loaded in the subscriber identity module 3 (SIM) via the short message service 6. For this purpose, the value added services node 7 initiates a respective procedure in the object center 9 via a message as a result of which the object allocated to the selected value added service is loaded in the mobile station 1.

After the call to the value added services node has been generated an object is activated in that the value added services node 7 sends a short message (SMS) to the mobile station 1. Said short message contains a version number which is compared with the version number of the object available in the mobile station and, if applicable, causes a more up-to-date object to be loaded.

If the user selected a menu item via the keyboard and if this operation has been successfully completed in the value added services node 7, then the value added services node 7 sends a short message (SM) to the SIM 3 whereupon the SIM 3 updates the display in the mobile station 1.

The objects are modified via short messages (SM). This substantially takes place in case of upgrades, *i.e.*, if the menu in the value added services node 7 or the menu of an individual value added service has changed and the object is subsequently adapted accordingly. If required, the object will be erased completely and replaced by a new one.

Alternatively, the objects may be loaded and modified in the subscriber identity module 3 at the location of a service provider 10.

This takes place by means of a SIM card reading and writing device 11 from the service provider 10 by means of which the required data are written into the memory of SIM. The service provider can request the respective object data from the object center 9 and supply these to the SIM card reading and writing device 11.

[Drawing References] DRAWING REFERENCES

1	Mobile station
2	ME mobile equipment
3	Subscriber identity module (SIM, USIM)
4	Mobile telephone network
5	[Aerial] Wireless interface
6	Short message service center
7	Value added services node (VAS node)
8	Home location register (HLR)
9	Object center
10	Service provider
11	SIM card reading and writing device (interface)